

WHAT IS CLAIMED IS

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1. A transmission apparatus, comprising:
an aggregate-side interface unit coupled
to an optical transmission line;
a cross-connect unit which performs cross-
10 connect with respect to a synchronized digital
signal supplied from said aggregate-side interface
unit; and
a network signal processing unit which
switches the synchronized digital signal in a unit
15 of a network signal as the synchronized digital
signal is supplied from said cross-connect unit.
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2. The transmission apparatus as claimed
in claim 1, wherein said network signal processing
unit includes:
a network signal extracting unit which
25 extracts a network signal from the synchronized
digital signal supplied from said cross-connect
unit;
a network signal switching unit which
switches the extracted network signal; and
30 a mapping unit which maps the network
signal switched by said network signal switching
unit onto a synchronized digital signal for
transmission to said cross-connect unit.

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3. The transmission apparatus as claimed
in claim 1, further comprising a tributary-side
interface unit which is connected to said cross-
connect unit, and interfaces one of an asynchronous
5 digital signal and a network signal.

10 4. The transmission apparatus as claimed
in claim 2, wherein said network signal processing
unit further includes an add/drop unit which drops
the network signal supplied from said network signal
switching unit, and adds a network signal supplied
15 from an exterior to said network signal switching
unit.

20 5. The transmission apparatus as claimed
in claim 2, wherein said network signal processing
unit further includes a flow monitoring and
adjusting unit which monitors and adjusts an amount
25 of flow of the synchronized digital signal supplied
from said cross-connect unit.

30 6. The transmission apparatus as claimed
in claim 3, wherein said tributary-side interface
unit extracts one of an asynchronous digital signal
and a network signal from a synchronized digital
35 signal supplied from said cross-connect unit for
dropping to an exterior, and adds one of an
asynchronous digital signal and a network signal

supplied from the exterior.

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7. The transmission apparatus as claimed in claim 1, wherein said network signal processing unit performs ring switching in a LAN by use of a RPR (resilient packet ring) function.

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8. The transmission apparatus as claimed in claim 1, wherein the synchronized digital signal is one of an SONET signal and an SDH signal.

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9. The transmission apparatus as claimed in claim 1, wherein the network signal is a RPR signal.

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10. The transmission apparatus as claimed in claim 9, wherein said cross-connect unit and said network signal processing unit are connected through RPR signals.

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